10428

A MANUAL
OF
THE GEOLOGY OF INDIA.

PART II: EXTRA-PENINSULAR AREA.

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PLATE I.

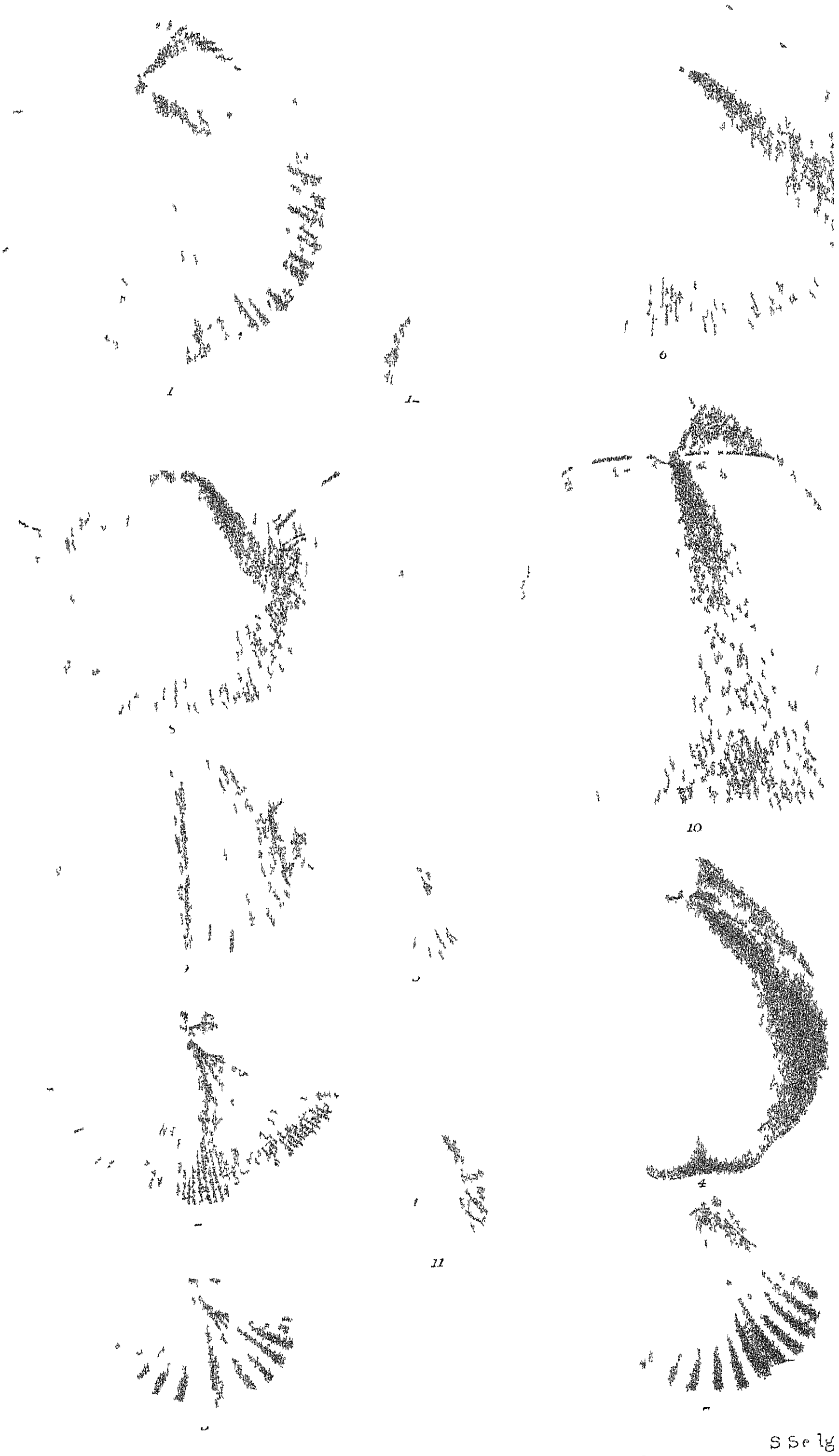
CARBONIFEROUS FOSSILS (Marine)

Fig 1 Spirifer keilhavii, Buch. (*S rajah*, Salter)
,, 2 S moosakhailensis, Davidson. Half natural size.
,, 3. Spiriferina octoplicata, Sowerby
,, 4 Athyris subtilita, Hall, var. *grandis*, Dav
,, 5. Retzia radialis, Phillips, var *grandicosta*, Dav.
,, 6. Camerophoria purdoni, Dav.
,, 7 Streptorhynchus crenistria, Phil.
,, 8. Productus semireticulatus, Sow.
,, 9. P. costatus, Sow. Half natural size.
,, 10. P purdoni, Dav
,, 11. Strophalosia morrisiana, King.
,, 12 Chonetes hardrensis, var *thibetensis*, Dav.
,, 13 Aviculo pecten hyemalis, Salter

N B—All are of natural size, unless the proportions are mentioned

Geology of India

Plate



J Schaumburg fect

CARBONIFEROUS FOSSILS

S Sel lg

PLATE II.

TRIASSIC FOSSILS (Marine).

Fig. 1. AMMONITES FLORIDUS, Wulfen. Half natural size.
" 2. A. (CERATITES) THUILLIERI, Oppel. Half natural size.
" 3. A. DIFFISSUS, Hauer.
" 4. CLYDONITES OLDHAMIANUS, Stoliczka.
" 5. HALOBIA LOMMELI, Wissm.
" 6. MONOTIS SALINARIA, Bronn. Half natural size.
" 7. DICEROCARDIUM HIMALAYENSE, Stol. One-third natural size.
" 8. MEGALODON TRIQUETER, Wulfen. Half natural size.
" 9. SPIRIFER STRACHEYI, Salter.

PLATE III.

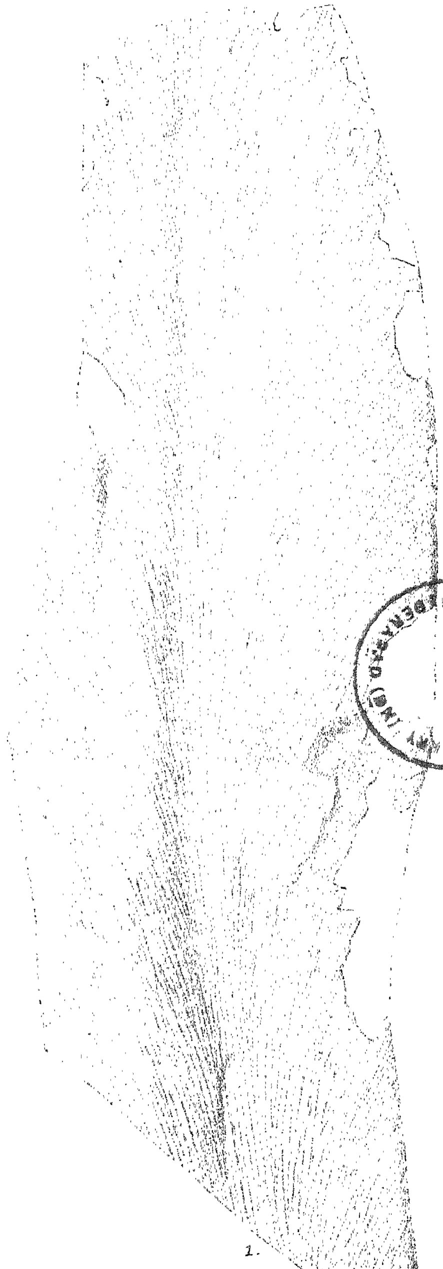
TÁLCHIR AND DAMÚDA FOSSIL PLANTS.

Fig. 1. GANGAMOPTERIS CYCLOPTEROIDES, Feistmantel.

„ 2 & 3. SPHENOPHYLLUM SPECIOSUM, Royle, sp. (*S. trizygia*, Unger).

„ 4. PHYLLOTHECA INDICA, Bunbury.

Plate III.



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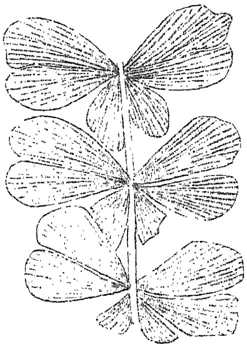

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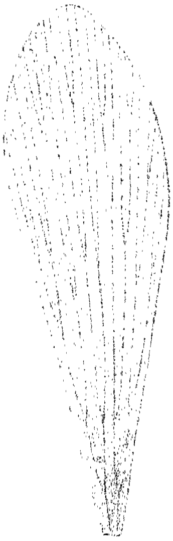

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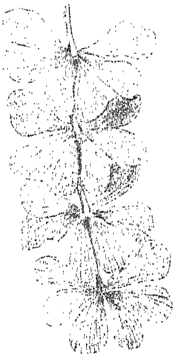

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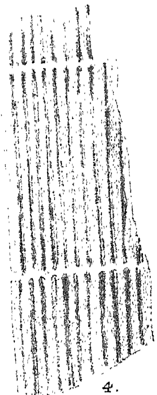

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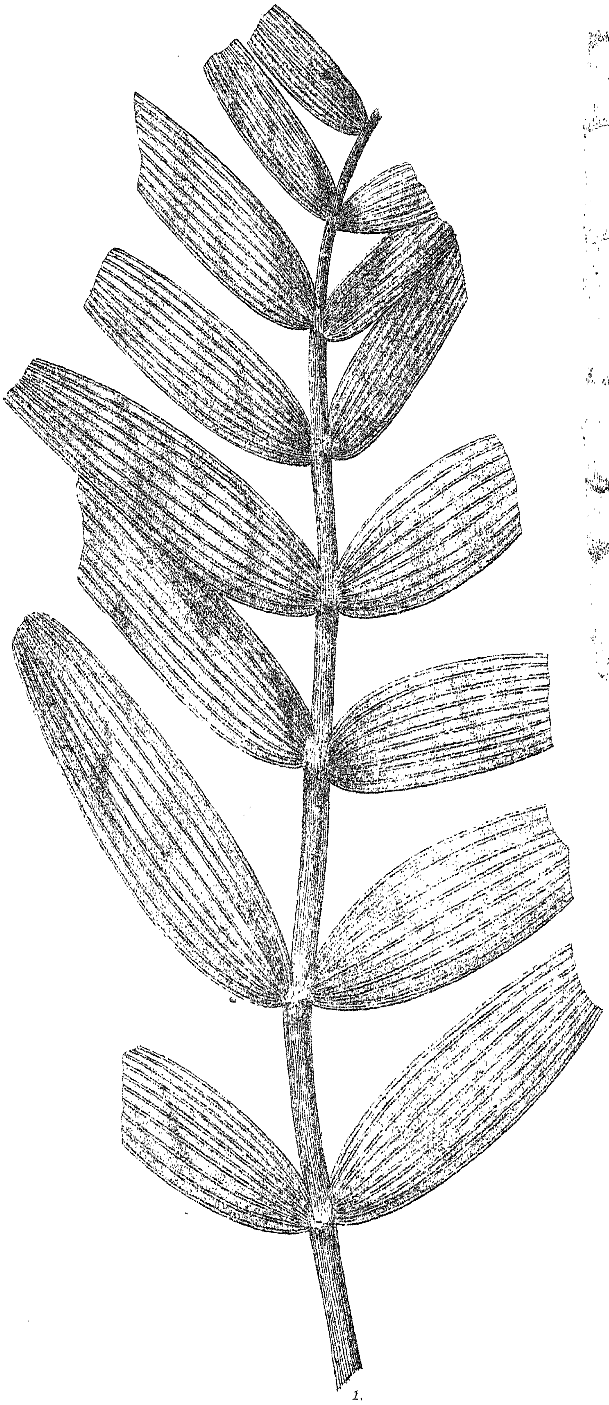
TALCHIR GROUP AND DAMUDA SERIES.

PLATE IV.

DAMÚDA FOSSIL PLANTS.

Fig. 1 & 3. SCHIZONEURA GONDWANENSIS, Fstm.
„ 2. VERTEBRARIA INDICA, Royle.



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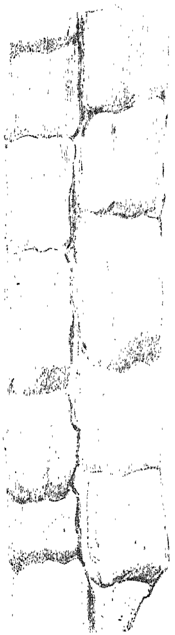

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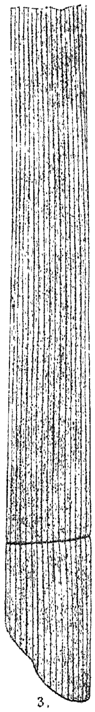

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DAMUDA SERIES.

PLATE V.

DAMÚDA FOSSIL PLANTS

Fig 1, 2 & 3 PHYLLOTHECA INDICA, Bunbury. Leaves

„ 4, GLOSSOPTERIS INDICA, Schimper.

„ 5. G RETIFERA, Fstm sp , nov.

„ 6 G ANGUSTIFOLIA, Brongniart.

PLATE VI.

KARHARBARI AND DAMUDA FOSSIL PLANTS.

Fig. 1. VERTEBRARIA INDICA, Royle.

" 2. SPHENOPTERIS POLYMORPHA, Feistm.

" 3. TÆNIOPTERIS (*Macrotæniopteris*) [illegible]

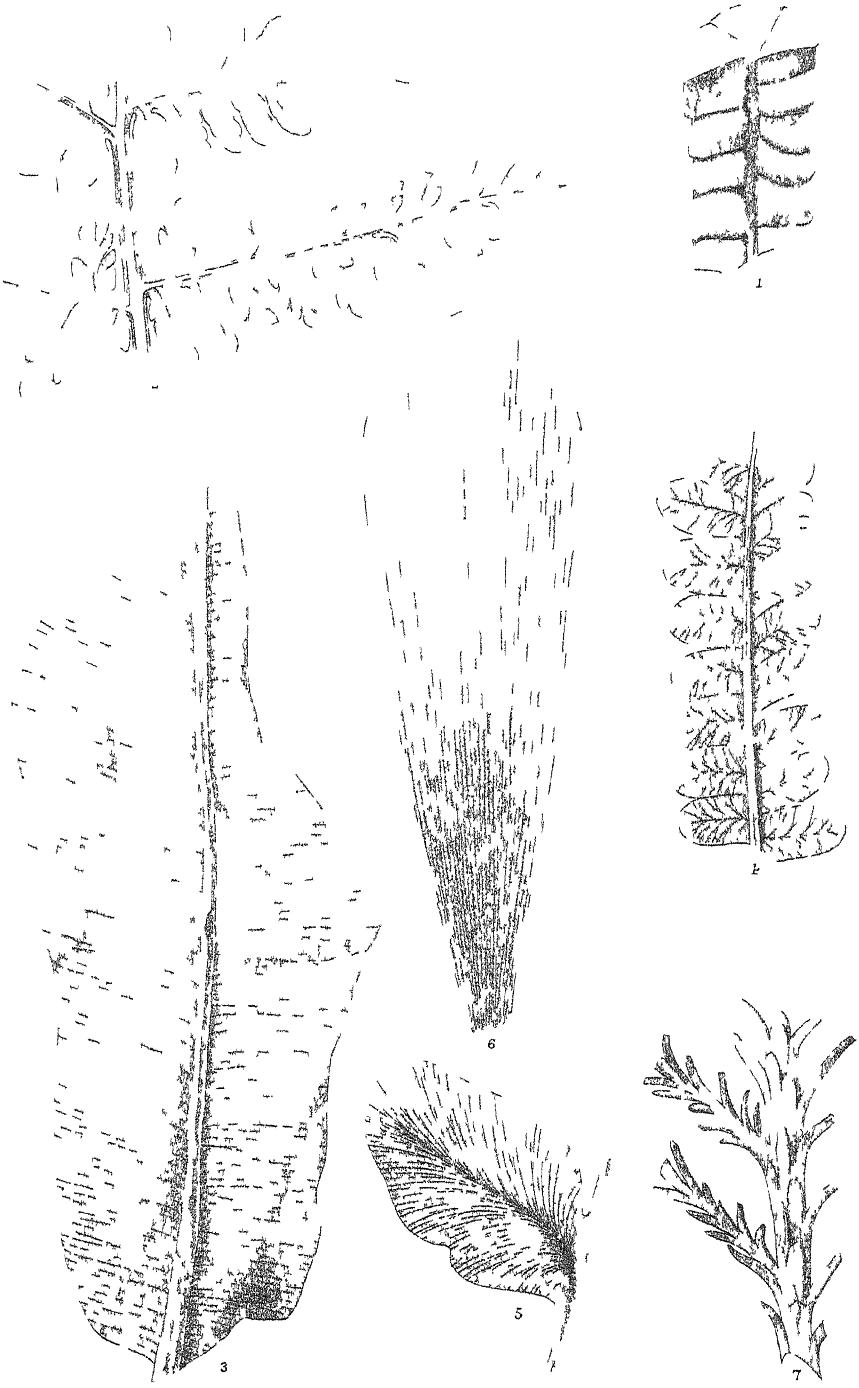
" 4. ALETHOPTERIS LINDLEYANA, Royle sp.

" 5. NEUROPTERIS VALIDA, Feistm.

" 6. NOEGGERATHIOPSIS HISLOPI [illegible]

" 7. VOLTZIA HEERIANA [illegible]

N. B.—[illegible] should have been figured with [illegible] III [illegible] of the Karharbari [illegible]



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DAMUDA SERIES

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PLATE VII.

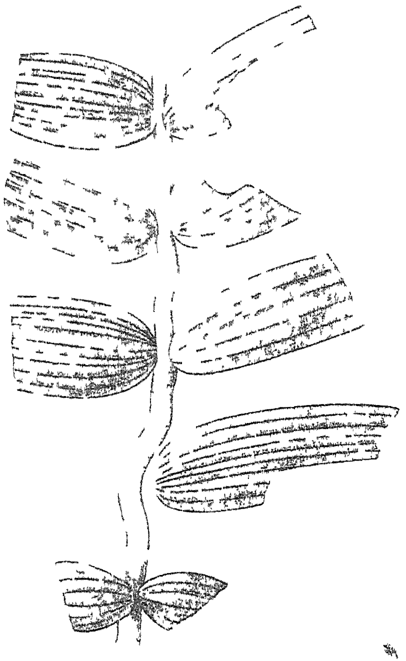
PANCHET FOSSIL PLANTS

Fig 1, 2 & 3 SCHIZONEURA GONDWANENSIS, Fstm

„ 4 TÆNIOPTERIS (*Oleandridium*), sp, allied to O *stenoneuron*, Schenk

„ 5. CYCLOPTERIS PACHYRACHIS, Goppert.

„ 6 PECOPTERIS CONCINNA, Presl.



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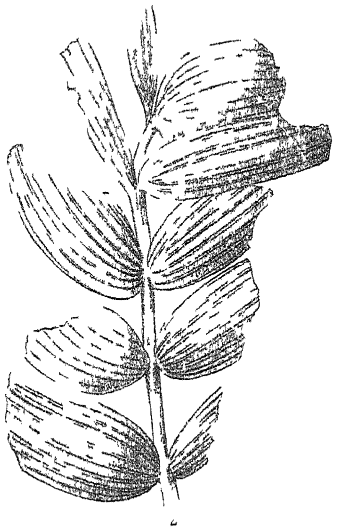

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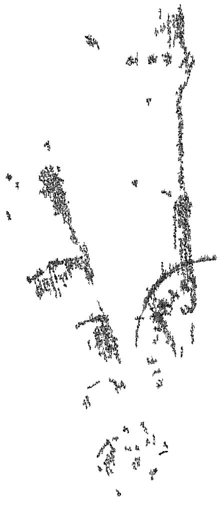

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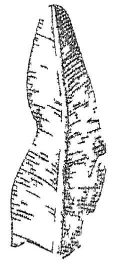

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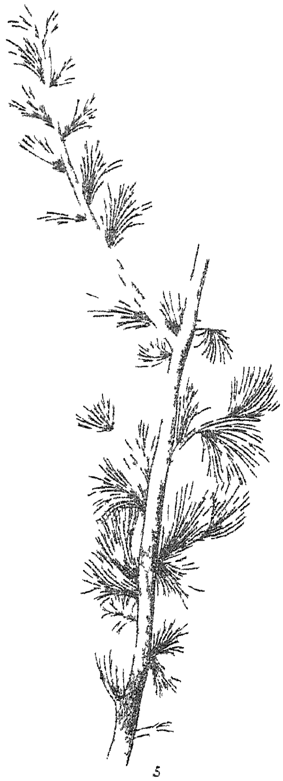

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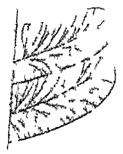

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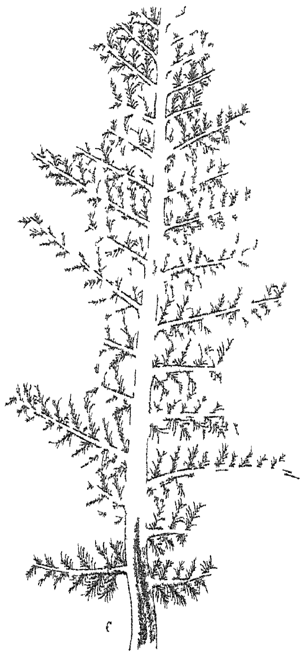

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S Sedgfield imp

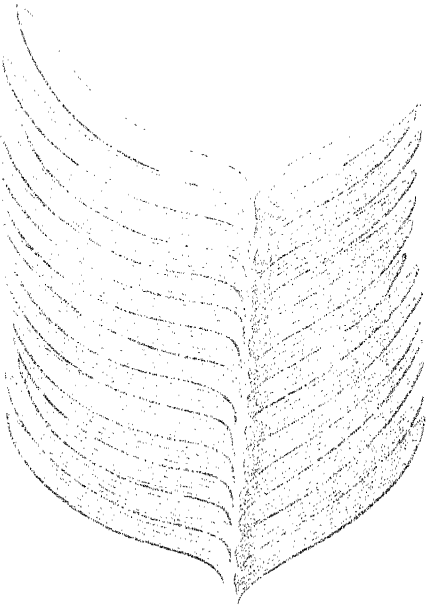
PANCHET GROUP

PLATE VIII.

RÁJMAHÁL FOSSIL PLANTS.

Fig. 1. Ptilophyllum acutifolium, Morris.
,, 2. Pterophyllum rajmahalense, Morris.
,, 3. P. princeps, Oldham and Morris.
,, 4. Cycadites confertus, Morris.
,, 5. Otozamites bengalensis, Oldham, sp.
,, 6. Dictyozamites falcatus, Morris, sp.
,, 7. Palissya conferta, Oldham, sp.

Plate. VIII.



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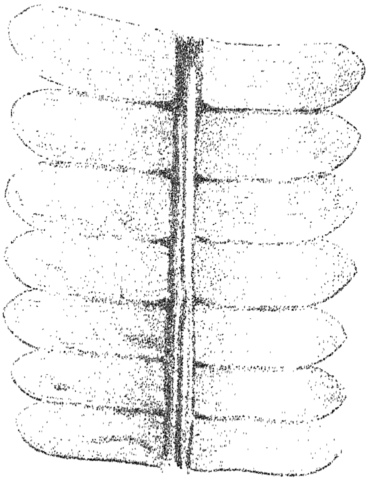

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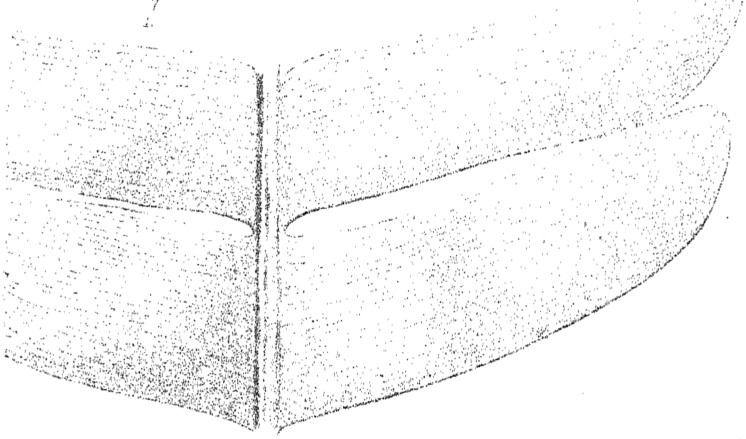

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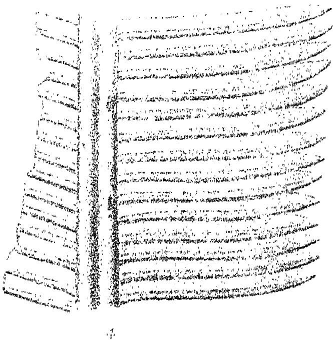

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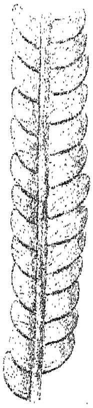

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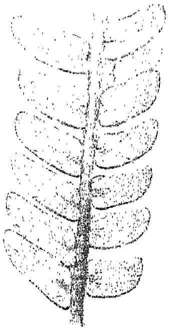

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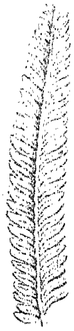

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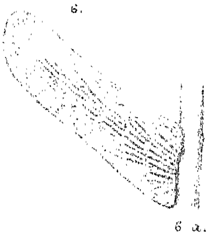

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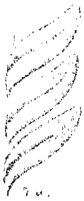

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RAJMAHAL GROUP.

S. Sedgfield, imp:

PLATE IX.

RÁJMAHÁL FOSSIL PLANTS.

Fig. 1. GLEICHENIA BINDRABUNENSIS, Schimper; (*Pecopteris* [*Gleichenites*] *gleichenoides*, O. and M.)

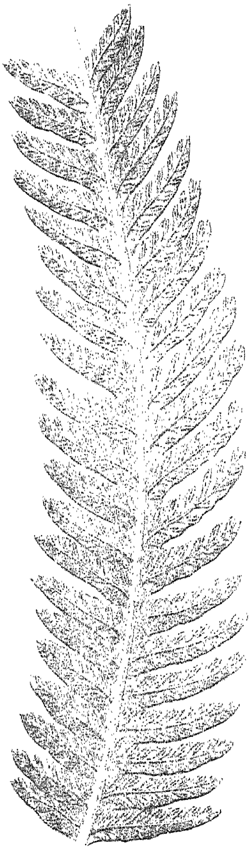
„ 2. ALETHOPTERIS INDICA, O. and M.

„ 3. PECOPTERIS LOBATA, O. and M.

„ 4. TÆNIOPTERIS (*Angiopteridium*) SPATHULATA, McClelland, sp.

„ 5. T. (*Macrotæniopteris*) LATA, Oldham.

Plate IX.



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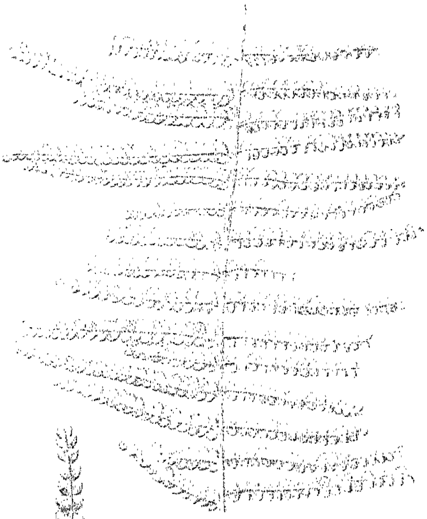

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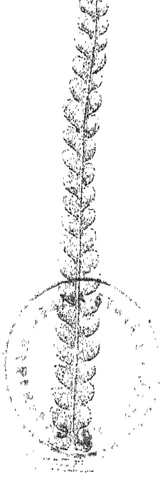

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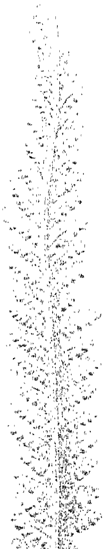

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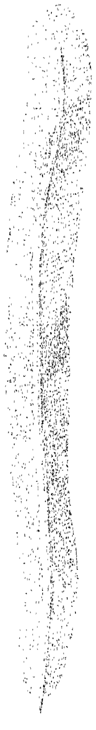

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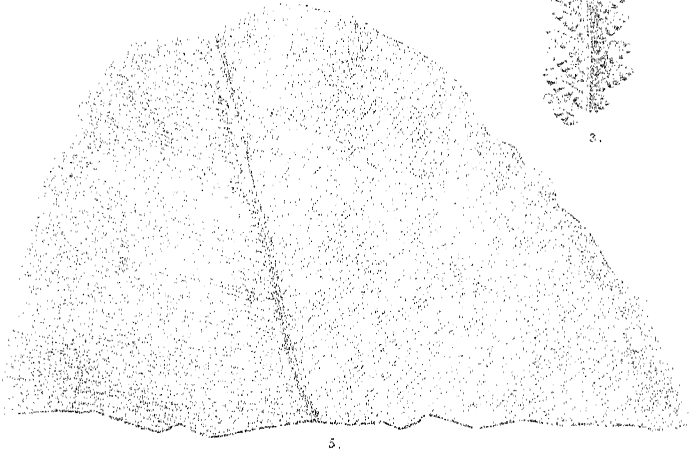

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RAJMAHAL GROUP.

Sedgfield, imp.

PLATE X.

JABALPUR FOSSIL PLANTS.

Fig.	1	ALETHOPTERIS MEDLICOTTIANA, Oldham.
,,	2.	OTOZAMITES GRACILIS, Kurr, sp.
,,	3.	O. HISLOPI, Oldham.
,,	4 & 5.	PODOZAMITES LANCEOLATUS, Lindley and Hutton, sp.
,,	6 & 7.	BRACHYPHYLLUM MAMMILLARE, L. and H.
,,	8.	PALISSYA JABALPURENSIS, Feistm.
,,	9.	P. INDICA, Oldham, sp.
,,	10 & 11.	ARAUCARITES CUTCHENSIS, Feistm.

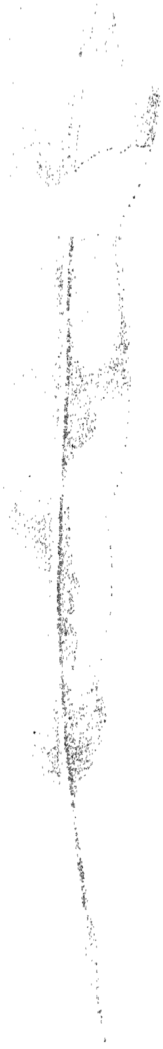
JABALPUR GROUP

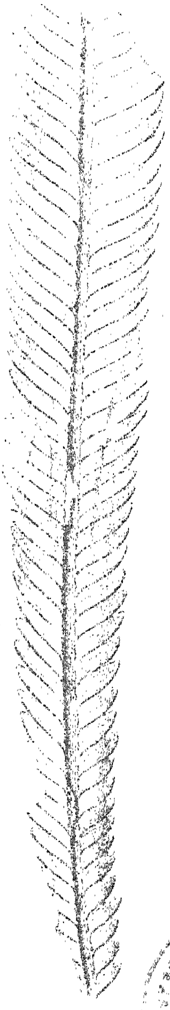
PLATE XI.

UMIA (CUTCH) FOSSIL PLANTS.

Fig.	1.	Tæniopteris (*Oleandridium*) vittata, Bgt.
,,	2.	Alethopteris whitbyensis, Bgt., sp.
,,	3 & 4.	Ptilophyllum cutchense, Morris.
,,	5.	Echinostrobus expansus, Sternberg, sp.
,,	6.	Pachyphyllum divaricatum, Bunbury, sp.
,,	7 & 8.	Araucarites cutchensis, Fstm.

Plate. XI.





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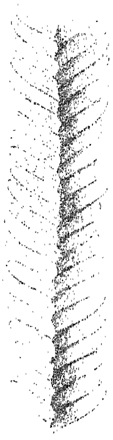

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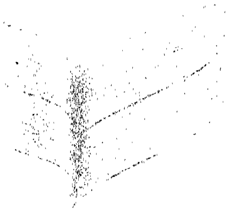

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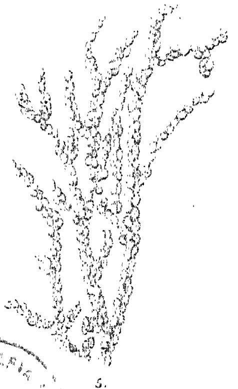

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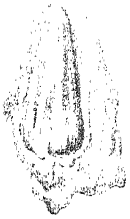

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2 *a*.

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[illegible] del.

KACH GROUP.

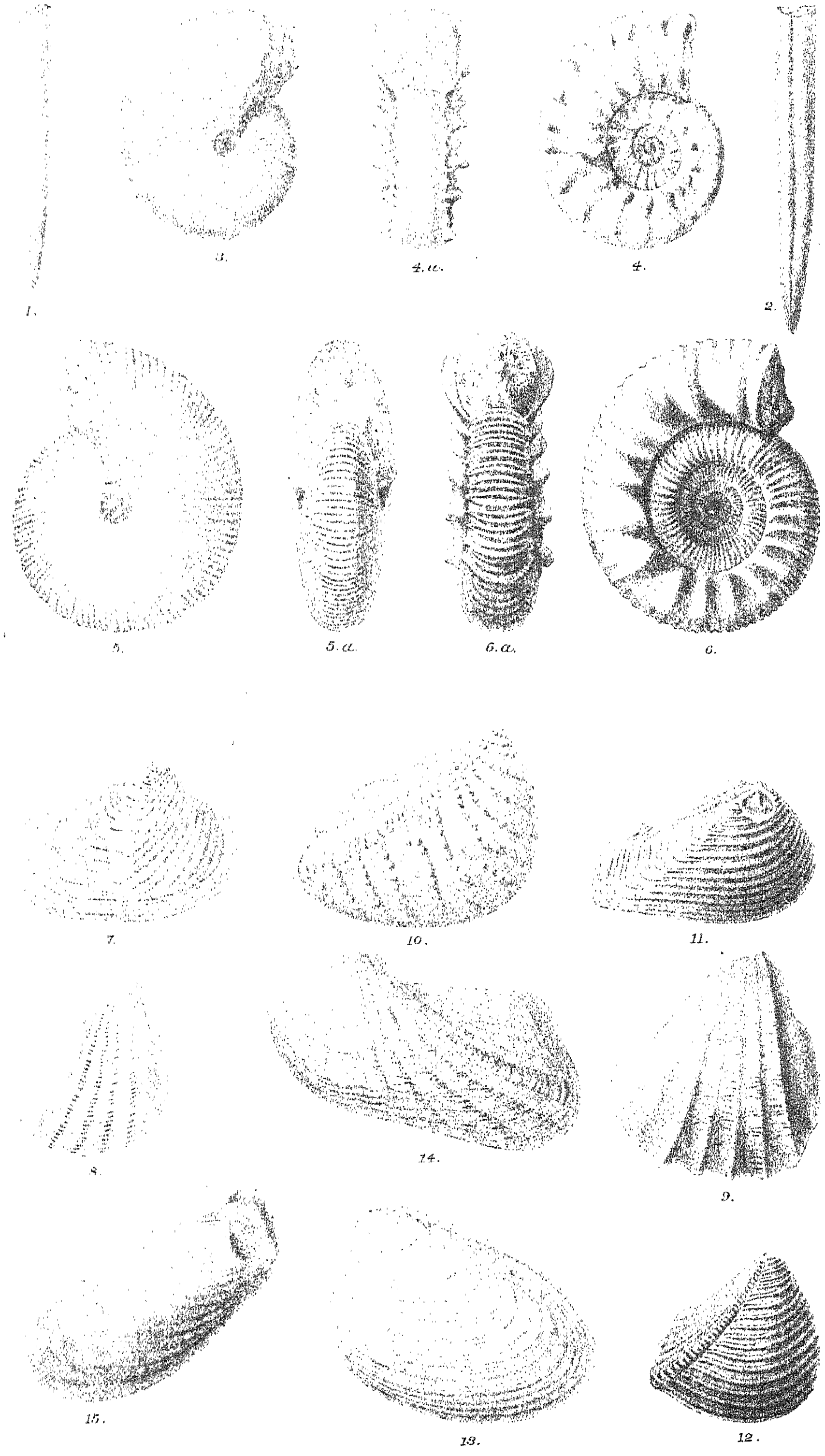
S. Sedgfield, imp:

PLATE XII.

JURASSIC FOSSILS (*Marine*).

Fig. 1. BELEMNITES GERARDI, Oppel. Half natural size.
„ 2. B. GRANTIANUS, D'Orbigny; (*B. kuntkotensis*, Waagen). Half natural size.
„ 3. AMMONITES (*Phylloceras*) DISPUTABILIS, Zittel. Half natural size.
„ 4. A. (*Aspidoceras*) PERARMATUS, Sow. One-third natural size.
„ 5. A. (*Stephanoceras*) MACROCEPHALUS, Schlotheim. One-fourth natural size.
„ 6. A. (*Perisphinctes*) POTTINGERI, Sow. One-third natural size.
„ 7. GONIOMYA V-SCRIPTA, Agassiz. Half natural size.
„ 8. PHOLADOMYA GRANOSA, Sow. Half natural size.
„ 9. P. ANGULATA, Sow. Half natural size.
„ 10. TRIGONIA CLAVELLATA, Lind. Half natural size.
„ 11. T. SMEEI, Sow. One-third natural size.
„ 12. T. COSTATA, Parkinson. Half natural size.
„ 13. ASTARTE MAJOR, Sow. One-third natural size.
„ 14. ARCA (*Macrodon*) EGERTONIANA, Stol.
„ 15. AUCELLA LEGUMINOSA, Stol.

N. B.—*Goniomya v-scripta* and *Trigonia clavellata* are not known to occur in India.



J. Schaumburg, fec^t. S. Sedgfield, imp:

JURASSIC FOSSILS.

PLATE XIII.

CRETACEOUS FOSSILS (Marine).

Fig. 1. AMMONITES ROTOMAGENSIS, Defrance. One-third natural size.
„ 2 A. PLANULATUS, Sow. Half natural size.
„ 3. TURRILITES COSTATUS, Lamarck. Half natural size.
„ 4 BACULITES VAGINA, Forbes. Half natural size
„ 5. APORRHAIS SECURIFERA, Forbes, sp.
„ 6. AVELLANA SCROBICULATA, Stol
„ 7. CARDIUM (*Protocardium*) HILLANUM, Sow. Half natural size.
„ 8. TRIGONIA SCABRA, Lam.
„ 9. INOCERAMUS SIMPLEX, Stol. Half natural size.
„ 10. PECTEN (*Vola*) QUINQUECOSTATUS, Sow.
„ 11. HIPPURITES ORGANISANS, Mont. One-fourth natural size.
„ 12. H CORNU VACCINUM Bronn Transverse section; one-third natural size.

N. B.—The two species of *Hippurites* are not known to occur in India

PLATE XIV.

INTERTRAPPEAN FOSSILS (Upper cretaceous).

A.—Freshwater.

Fig. 1 PHYSA PRINSEPII, Sow. Normal form.
,, 2. P. PRINSEPII, Sow., var. *elongata*, Hislop.
,, 3. PALUDINA NORMALIS, Hisl.
,, 4. P. ACICULARIS, Hisl.
,, 5. P. SANKEYI, Hisl.
,, 6. P. DECCANENSIS, Sow.
,, 7. VALVATA MULTICARINATA, Hisl.
,, 8. VALVATA MINIMA, Hisl.
,, 9. LYMNEA SUBULATA, Sow.
,, 10. L. TELANKHEDIENSIS, Hisl., var. *peracuminata*.
,, 11. L. SPINA, Hisl.
,, 12. MELANIA QUADRILINEATA, Sow.
,, 13. UNIO DECCANENSIS, Sow. Half natural size.
,, 14. UNIO HUNTERI, Hisl. Three-fourths natural size.

B.—Estuarine.

Fig. 15. PSEUDOLIVA ELEGANS, Hisl.
,, 16. NATICA STODDARDI, Hisl.
,, 17. CERITHIUM STODDARDI. Hisl.
,, 18. VICARYA FUSIFORMIS, Hisl.
,, 19. TURRITELLA PRÆLONGA, Hisl.
,, 20. CARDITA VARIABILIS, Hisl.

PLATE XVI.

MIOCENE GĀJ FOSSILS (chiefly Marine)

Fig. 1. Vicarya verneuilli, D'Arch.
„ 2. Turritella angulata, Sow.
„ 3. Ostrea multicostata, Deshayes.
„ 4. Pecten favrei, D'Arch.
„ 5. Arca (*Parallelepipedum*) kurracheensis, D'Arch.
„ 6. A. (*Anomalocardia*) larkhanensis, D'Arch. (*estuarine*).
„ 7. Venus granosa, Sow. Half natural size.
„ 8. Corbula trigonalis, Sow. (*estuarine.*)
„ 9. Breynia carinata, D'Arch. and H. Half natural size.
„ 10. Echinodiscus, sp.
„ 11. Clypeaster depressus, Sow. Half natural size.